

**UNITED STATES DISTRICT COURT  
SOUTHERN DISTRICT OF NEW YORK**

ROVI GUIDES, INC.; ROVI  
TECHNOLOGIES CORP.; and VEVEO, INC.,

Plaintiffs,

v.

COMCAST CORPORATION; COMCAST  
CABLE COMMUNICATIONS, LLC;  
COMCAST CABLE COMMUNICATIONS  
MANAGEMENT, LLC; COMCAST OF  
HOUSTON, LLC; COMCAST BUSINESS  
COMMUNICATIONS, LLC; COMCAST  
HOLDINGS CORPORATION; COMCAST  
SHARED SERVICES, LLC; ARRIS  
INTERNATIONAL PLC; ARRIS GROUP  
INC.; ARRIS TECHNOLOGY, INC.; ARRIS  
ENTERPRISES LLC.; ARRIS SOLUTIONS,  
INC.; PACE LTD.; PACE AMERICAS  
HOLDINGS, INC.; PACE AMERICAS  
INVESTMENTS, LLC; PACE AMERICAS,  
LLC; TECHNICOLOR SA; TECHNICOLOR  
USA, INC.; and TECHNICOLOR  
CONNECTED HOME USA LLC,

Defendants.

Case No. 1:16-cv-09278-JPO

**ROVI'S CLAIM CONSTRUCTION  
REPLY BRIEF**

**PLAINTIFFS ROVI GUIDES, INC., ROVI TECHNOLOGIES CORP., AND VEVEO,  
INC.'S CLAIM CONSTRUCTION REPLY BRIEF**

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## **I. The '595, '666, and '987 Patents**

### **A. “Video Recorder” [’595 Patent Claims 1, 9, 13, 14, 17, 21, 22]**

The dispute over this term is whether a “video recorder” in the claims of the ’595 patent must be solely, exclusively, and only limited to a “video cassette recorder” (“VCR”)—as Comcast urges. A person of ordinary skill in the art (“POSITA”) would understand what a “video recorder” is, and so would a lay juror, and this term does not need construction. A video recorder is a device that records video. Shamos R. Decl. at ¶ 2. Comcast provides no evidence of what a POSITA would understand the term “video recorder” to mean, yet Comcast urges that the construction be limited to the recorder disclosed in a preferred embodiment (e.g., a VCR), which is improper under controlling Federal Circuit law. *Hill-Rom Servs. v. Stryker Corp.*, 755 F.3d 1367, 1371 (Fed. Cir. 2014) (“This court has expressly rejected the contention that if a patent describes only a single embodiment, the claims of the patent must be construed as being limited to that embodiment.”). Consistent with the plain meaning of the term, the specification provides that a video recorder must record videos: “[o]nce a program of interest has been located and highlighted by the cursor, the user can use the remote control to cause the set-top box to tune to the selected program (‘point and tune’), or to schedule the program for later viewing or recording (if not yet being telecast).” ’595 Patent at 4:37-41. While a VCR is one device that is capable of recording video, a POSITA would understand that other types of video recorders could be used. Shamos R. Decl. at ¶ 3. There is nothing in any claim that requires the video recorder to be limited solely to a VCR, and the benefit of the invention is not restricted to VCRs. *See Ring & Pinion Serv. Inc. v. ARB Corp.*, 743 F.3d 831, 835 (Fed. Cir. 2014) (“[A]n after-arising technology, a technology that did not exist at the time of patenting, can be found to be an equivalent under the doctrine of equivalents[.]”) (citing *Al-Site Corp. v. VSI Int’l, Inc.*, 174 F.3d 1308, 1320 (Fed.Cir.1999)). Comcast’s proposed construction should be rejected as too narrow.

### **B. “Tuner” [’595 Patent Claims 1, 9, 13, 14, 17, 21, 22]**

Rovi believes that the term “tuner” does not need construction because a POSITA would understand what that term means. Shamos Decl. at ¶ 7. Comcast provides no evidence of what a

POSITA would understand the term “tuner” to mean, stating only that the ALJ’s construction in the Initial Determination as to a patent not at-issue here (“an electronic circuit used to selectively receive a desired frequency out of an entire frequency band”) is “consistent with Defendants’ proposal.” Comcast Br. at 6 (citing Lisson Decl. Ex. 11 at 411). While the ALJ’s construction includes part of the operation of the claimed tuner, it omits whether the claimed tuner also “tunes to” the desired portion of the received signal—a receiver receives signals over an entire frequency range, a tuner tunes to the desired portion of the received signal. Shamos R. Decl. at ¶ 4. The time for Rovi to challenge the ALJ’s construction has not yet passed.

**C. “Interactive Television Program Guide” [’595 Patent Claims 1, 9-17, 21, 23, 24], “User Equipment Having an Interactive Television Program Guide Implemented Thereon” [’595 Patent Claim 9], and “receiv[ing]...program schedule information” [’595 Patent Claim 1, 9, 17]**

Based on Comcast’s brief, the parties agree that the term “interactive television program guide” should be construed as something “that allows user navigation through and interaction with television program listings and causes display of program information on user television equipment based on user commands.” *See* Comcast Br. at 7 n. 5. The remaining disputes regarding the interactive program guide terms are that Comcast’s proposed construction: (1) improperly limits the guide to a single application (“an application”); (2) improperly limits the guide to run exclusively, solely, and only on “equipment at a user site,” and (3) improperly inserts “in the set-top box” into the “receiving...” claim limitation where it does not exist. These limitations are not appropriate and, as Comcast admits, are non-infringement arguments.

Addressing the first and second issues together, the interactive television program guide is not limited to a single “application” or to execution solely on equipment located at a user site. The ’595 Patent’s specification “makes clear that the interactive television program guide...can be distributed applications that run on, or are implemented on, different items of equipment that can be geographically distant.” *See* Rovi’s Opening Claim Construction Brief at 5-8; Shamos Decl. at ¶ 15 (citing examples in the ’595 patent’s specification that show a distributed program



guide). In some embodiments (ignored by Comcast), the interactive television program guide is a set of distributed applications and does not execute solely on the set-top box or at a user site.<sup>1</sup> *Id.*

Third, Comcast improperly inserts “in the set-top box” into its proposed construction of “receiving...program schedule information.” That phrase alters the plain meaning of the claim, and should be rejected for that reason alone. Additionally, the “receiving...” term is found in claims 1, 9, and 17 of the ’595 Patent, but in claims 1 and 17, the term comes before any definition or use of the term “set-top box,” and thus Comcast’s proposed construction acts to create an antecedent basis issue where none is present in the claims as written. Comcast’s proposed construction should be rejected because it improperly creates an antecedent basis issue for some of the asserted claims of the ’595 Patent creating unnecessary ambiguity.

**D. “Markup Language” [’987 Patent Claims 1, 8, 9, 16], “Markup Language Document” [’987 Patent Claims 1, 8, 9, 16], and “Dynamic Hyper Text Markup Language Document” [’987 Patent Claims 8, 16]**

Comcast’s proposed constructions for the “markup language” terms are unnecessarily confusing and are unhelpful to the factfinder’s understanding what these terms mean. First, Comcast’s proposed construction of the term “markup language” is improper because it adds the word “system” into the claim, which has a special meaning in patent law: a system claim, also known as an apparatus claim, is distinguished from a method claim.<sup>2</sup> *Shamos Dec.* at ¶ 13. Second, Comcast’s construction of “markup language” improperly reads functionality from a single embodiment of a markup language document into the “markup language” term itself. *See Comcast Br.* at 19-20 (citing to one description of the use of a markup language to create a “document that indicates user display screen layout and styling and program guide functionality.”). This is improper because (a) it reads limitations from a single embodiment into a claim (*Hill-Rom Servs.*, 755 F.3d at 1371) and (b) it reads limitations from one type of markup language document (e.g., “the document arranges user display screen layout and styling and

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<sup>1</sup> Comcast replaces the word “guide” with “application”—which is not used in the ’595 patent. Such a replacement is inconsistent with how a POSITA would understand this term. *Shamos R. Decl.* at ¶ 5.

<sup>2</sup> A POSITA would understand that a markup language is a system in the natural use of the word “system,” which is a scheme of expression as opposed to a patent law specific use of the word “system.” *Id.* at ¶ 9.

indicates functionality”) into the very definition of the “markup language” term. Third, neither a “markup language document” nor a “DHTML document” is required to be “self-contained.” Rovi Br. at 14. Comcast cites to a lay dictionary definition of “document” but provides no explanation—or evidence—as to why a POSITA would apply a lay dictionary definition to the technical term in the patent that incorporates the word “document.” *Compare* Shamos Decl. at ¶ 13 (discussing how a POSITA understands the markup language terms) *with* Comcast Br. at 22 n.13 (“A ‘document’ is a self-contained file.” (no citation)).

**E. “Preprogrammed on the Set-Top Box” [’987 Patent Claims 1, 9]**

Comcast’s proposed construction is improper at least because it attempts to add method claim “steps” to independent system/apparatus claim 9. A single claim covering two categories of invention, such as a system and a method of using that system, is “not sufficiently precise to provide...an accurate determination of the ‘metes and bounds’ of protection involved.” *IPXL Holdings, L.L.C. v. Amazon.com, Inc.*, 430 F.3d 1377, 1384 (Fed. Cir. 2005). “[C]laim language should generally be construed to preserve validity, *if possible*.” *Tate Access Floors v. Interface Architectural Res.*, 279 F.3d 1357, 1367 (Fed. Cir. 2002) (emphasis in original, internal citations omitted). The Court should reject Comcast’s proposed imprecise construction and adopt Rovi’s.

**F. “Program Function” [’987 Patent Claims 1, 3, 9, 11]**

This term does not need to be construed: a “program function” is, as both parties seem to recognize, a function or functionality of a program guide. Shamos R. Decl. at ¶ 10. Comcast provides no evidence of what a POSITA would understand the “program function” term to mean. Additionally, a POSITA would not add Comcast’s proposed additional negative limitation of “(i.e., not screen layouts)” because it does not add to the understanding of the claim and “screen layouts” is not found or used in the claims. Further showing that Comcast’s proposed negative limitation is erroneous, the specification discloses embodiments of “interactive television program guide systems which provide for the flexible modification of program guide *user screen layouts* and program guide functionality.” ’987 patent, 1:23-25 (emphasis added); *id.*

**G. Comcast's Means Plus Function Arguments Under 35 U.S.C. § 112(f)<sup>3</sup>****1. “User Equipment Having an Interactive Program Guide Implemented Thereon, ...” [’595 Patent Claim 9]**

Comcast misstates this term as an “interactive program guide configured to ...,” Comcast Br. at 46-47, but that term is not found in any of the claims of the ’595 patent. Instead, Comcast does not brief the term it asked the Court to construe in the Joint Claim Chart [Dkt. No. 281-1], which is the entirety of claim 9 of the ’595 patent. Comcast provides no case law, intrinsic evidence, extrinsic evidence, or argument that the entirety of claim 9 is governed by 112 ¶ 6, or is indefinite, as it requests the Court to find in the Joint Claim Chart. Claim 9 of the ’595 patent is not a means plus function claim under § 112(f) because it recites “user equipment” as the apparatus that must include the structure recited in the claim. ’595 Patent at Claim 9 (reciting the structure of the user equipment in detail); Shamos R. Decl. at ¶ 6. Both Comcast and Rovi have been able to understand and offer a construction for the term “user equipment having an interactive television program guide implemented thereon.”<sup>4</sup> Dkt. No. 281-1 at 2. Additionally, a POSITA would understand the structure of this term from the claims themselves—as the claims themselves describe what the user equipment includes. Shamos R. Decl. at ¶ 6.<sup>5</sup> As Comcast provides no argument or evidence that the “user equipment having an interactive television program guide implemented thereon...” is governed by 112(6), or is indefinite, Comcast’s invalidity argument should be rejected and Rovi’s construction adopted.

**2. “Set-Top Box with Control Circuitry Configured To” [’987 Patent Claim 9]**

Comcast misstates this term as “control circuitry configured to...,” Comcast Br. at 47, but

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<sup>3</sup> In the Joint Claim Chart [Dkt. No. 281-1], Comcast asked the Court to construe claim 17 of the ’595 patent as a means plus function claim under 112(6) and to find it indefinite. However, Comcast does not brief this term.

<sup>4</sup> Further, Comcast itself found this term not indefinite and provided a proposed construction to the USPTO as recently as February 9, 2017 in its multiple Comcast IPR Petitions on the ’595 patent. Exs. A at 36 & B at 37.

<sup>5</sup> Comcast argues that “the specification does not discuss any code, algorithm, or any other structure for the guide, and none of the flow charts in the figures show an algorithm for controlling two tuners in the way described in the claims.” Comcast Br. at 47 (emphasis added). However, claim 9 of the ’595 patent does not include a “controlling two tuners” limitation. Instead, the actual limitations of the claim require “directing an output of said first tuner” and “an output of said second tuner”—which Comcast does not discuss.

again, that term is not at issue. Instead, Comcast ignores the actual term it asks the Court to construe in the Joint Claim Chart [Dkt. No. 281-1], which is “set-top box with control circuitry configured to.” Comcast provides no case law, intrinsic evidence, extrinsic evidence, or argument that the term “set-top box with control circuitry configured to” is governed by 112 ¶ 6, or is indefinite, as it requests the Court to find in the Joint Claim Chart. This term is not a means plus function term under §112(f) because it recites a “set-top box” as the apparatus that must include the structure recited in the claim. ’987 Patent at Claim 9 (citing the structure of set-top box); Shamos R. Decl. at ¶ 11. Both Comcast and Rovi have been able to understand and offer a construction for the term “set-top box” in other terms within the ’987 patent. *See e.g.*, Dkt. No. 281-1 at 10 (Comcast offering a construction of “preprogrammed on the set-top box”). Additionally, a POSITA would understand the structure of this term from the claims themselves, which recite what the set-top box includes. Shamos R. Decl. at ¶ 11. As Comcast provides no argument or evidence that the “set-top box with control circuitry configured to” is governed by §112(f), or is indefinite, Rovi’s construction should be adopted.

## **H. Hybrid Claims Arguments**

### **1. “wherein a set-top box includes two tuners...” [’595 Patent Claims 1, 17]**

Claims 1 and 17 of the ’595 patent are not indefinite as a mixed statutory class (“hybrid”) claim because the term “wherein a set-top box includes two tuners” is used only to define the environment for practicing the method of claim 1 and to define the specific computer readable medium that contains the program instructions recited in claim 17. Claim 1 of the ’595 patent is a method claim that describes steps for “controlling a first tuner and a second tuner.” ’595 Patent Claim 1. *See Microprocessor Enhancement Corp. v. Texas Instruments Inc.*, 520 F.3d 1367, 1375 (Fed. Cir. 2008). The “set-top box includes two tuners” limits the method to being practiced only within this environment. Shamos R. Decl. at ¶ 7.

Claim 17 is directed to “a non-transitory machine readable medium.” This type of claim covers a “computer readable medium (e.g., a disk, hard drive, or other data storage device)

containing program instructions for a computer to perform a particular process.” *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1373 (Fed. Cir. 2011). Comcast improperly conflates the computer readable medium of the claim (the set-top box) with the program instructions of the claim (the machine program logic), but a POSITA would understand Claim 17’s “machine readable medium” is a “set-top box [which] includes two tuners” and runs the “machine program logic” of the claim.<sup>6</sup> Shamos Decl. at ¶ 8.

**I. Comcast’s Argument that Every Claim of the ’666 Patent “as a Whole, Is Indefinite” [’666 Patent]**

Patent “claims are not indefinite merely because they present a difficult task of claim construction. Instead, ‘if the meaning of the claim is discernible, even though the task may be formidable and the conclusion may be one over which reasonable persons will disagree, we have held the claim sufficiently clear to avoid invalidity on indefiniteness grounds.’” *Halliburton Energy Servs., Inc. v. M-I LLC*, 514 F.3d 1244, 1249 (Fed. Cir. 2008) (citations omitted). Comcast’s argument that every claim in the ’666 patent is indefinite is based solely on attorney argument and is not supported by any evidence regarding the understanding of a POSITA. “[A] patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014). Comcast has, itself, proposed constructions for these very terms in several fora.<sup>7</sup>

**J. “Local Interactive Program Guide [Equipment]” [’666 Patent]**

The ’666 patent is related to two of the patents at issue in the ITC case (the ’263 and ’413 patents) in which the ALJ found Comcast X1 and Legacy set-top boxes infringed those patents. *See* Lisson Decl. Ex. 11 at 185. In the ALJ’s initial determination, he construed this term to mean “guide that allows navigation to through television program listings and causes display of

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<sup>6</sup> Further, Comcast itself found this term not indefinite and provided a proposed construction to the USPTO as recently as February 9, 2017 in its multiple Comcast IPR Petitions on the ’595 patent. Exs. A at 35 & B at 36.

<sup>7</sup> Comcast proposes constructions for most of the claim terms of the ’666 patent identified herein. Joint Claim Chart [Dkt. No. 281-1]; Comcast Br. at 11; Exs. K-O (IPR filings for ’666 Patent).

program information on user television equipment” based on the plain meaning of the term. *Id.* The ALJ explicitly found that “the claim term itself does not contain an explicit location-based limitation, as Comcast urges.” *Id.* The Court should reject Comcast’s attempt to import location-based limitations and it should adopt the same construction as in the ITC initial determination for the reasons stated therein. *Id.*; Shamos Decl. at ¶¶ 14-23.

## **II. The “Search Patents”**

### **A. Disputed Terms from the ’218 Patent**

#### **1. “Television Content Item”**

Comcast’s request for a negative “descriptors” limitation conflicts with the claim language and the specification. The ’218 patent specification expressly describes how “selecting and presenting” a “television content item” includes displaying the titles of the television content items that match a search entry, which can then be selected to view the television content item and which is contrary to Comcast’s contention. ’218 patent, 4:1-9; *see also* 8:21-52; Figures 8A and 8B. Comcast’s request should be rejected as inconsistent with the specification.

#### **2. “Relatively Large Set of Selectable Television Content Items” / “Relatively Large Set of Television Content Items”**

Comcast has not shown by clear and convincing evidence that the term “relatively large set of selectable television content items” is indefinite, *i.e.*, that ’218 patent fails to inform those skilled in the art about the scope of the invention with reasonable certainty.

*First*, Comcast contends that Rovi cannot rely on an example from the specification of the ’218 patent at 9:19-24, because “examples are not objective standards,” citing *Prolifiq Software, Inc. v. Veeva Sys. Inc.*, 2014 U.S. Dist. LEXIS 108630 (S.D. Cal. Aug. 6, 2014). Comcast Br. at 31. *Prolifiq* did not hold that examples can never be objective standards or that they can never support the definiteness of a term of degree. Rather, *Prolifiq* held only that the patent’s examples for the term “differently versioned” were insufficient to support definiteness, because the specification’s examples were “subjective.” *Prolifiq*, 2014 U.S. Dist. LEXIS 108630 at \*20-22. Where a specification contains examples, it is well settled that they can demonstrate

definiteness. *See e.g. Sonix Tech. Co. v. Publ'ns Int'l, Ltd.*, 844 F.3d 1370, 1378-79 (Fed. Cir. 2017) (term “visibly negligible” was definite based on examples in the specification); *Freeny v. Apple*, 2014 U.S. Dist. LEXIS 120446, \*17-18 (E.D. Tex. August 28, 2014) (Bryson, J., by designation) (term “low power communication signals” was definite based on examples in the specification). Here, the '218 patent provided examples of “relatively large” searchable sets of content items, including 1,500, 58,000, and 150,000 items. '218 patent, 9:11-31. These examples are objective by any measure of “large” sets of content items, and thus demonstrate definiteness.

*Second*, Comcast argues that the restaurant name example is inapplicable, because it does not involve television content items. Comcast Br. at 31. Whether the items are television content items is irrelevant, because in the '218 patent the search is conducted using the metadata descriptors for the content items, which are no different for the purpose of the search than restaurant names, movie titles, or employee names in the examples. '218 patent, 9:11-31.

*Third*, Comcast argues that the restaurant example cannot be descriptive of “relatively large” because it is the smallest of the examples in the patent, and therefore 1,500 may actually be “relatively small.” Comcast Br. at 31. This argument is nonsensical—the example shows the benefits of searching within a relatively large set of items (1,500 restaurant names) using a limited number of characters from more than one word and explains the merits of the invention.

*Fourth*, Comcast offers the declaration of Dr. John P.J. Kelly, who provides two selected examples – Google’s 8 billion webpage set of items and Vimeo’s tens of millions of video clips. Kelly Decl., ¶¶ 20-21. Both examples are irrelevant, however, because neither is described in the '218 patent specification, where the person of skill in the art must look for guidance. *Sonix Tech.*, 844 F.3d at 1377. Further, with respect to the Vimeo example on YouTube (Kelly Decl., ¶ 21), there is no evidence that Mr. Aravamudan was referring to a “relatively large set of television content items” or to the '218 patent or its claims.

*Lastly*, Veveo’s statements in a prior litigation against Verizon involving a different patent (U.S. Patent 7,536,384) regarding the meaning of the term “relatively large set of content items” are irrelevant, because these statements were made with respect to the '384 patent, not the

'218 patent. The meaning of “relatively large” is dependent upon the context of the invention as described in the claims and the specification of the particular patent at-issue. *Id.*

### 3. “Descriptor Prefix String”/“Descriptor Prefix”

There is no need to construe the terms “descriptor prefix string” and “descriptor prefix,” because they are already defined in the claims. Comcast proposes a construction for both terms in which each could include *all* of the characters of a word. Comcast’s construction is inconsistent with the definitions provided in the claims and cannot be correct. Rovi’s proposed construction defines “prefix” and makes clear that, in both terms, all of the words contain only “a character or characters which contain the leading character(s) of a word,” not the entire word.

“Descriptor prefix strings” are ranked and associated with the content items. Claims 1 and 19 define “descriptor prefix strings” as follows ('218 patent, 9:66-10:4; 11:28-33):

each descriptor prefix string being a variable length string containing a subset of the characters of the descriptive terms that characterize the selectable television content items, wherein each descriptor prefix string contains less than all characters of the descriptive terms

According to the claims, then, no complete words are contained in the “descriptor prefix string.” The claims require that all of terms in the string contain “a subset of the characters”: “containing a subset of the characters of the descriptive *terms*” and “each descriptor prefix string contains less than all characters of the descriptive *terms*.” (emphasis added).

“Descriptor prefixes,” on the other hand, are prefixes of single words that are incrementally input by the user in connection with the search. Claims 1 and 19 define a first “descriptor prefix” as follows ('218 patent, 10:12-14; 10:26-29; 11:42-45; 11:57-12:2):

wherein the first descriptor prefix contains less than all characters of the word the user is using to incrementally identify the at least one desired television content item

The “descriptor prefix” is not a string; it contains only a prefix containing less than all of the characters for a single word: “the first descriptor prefix *contains less than all characters of the word*.” ('218 patent, 10:12-13) (emphasis added).



Comcast asks the Court to change this unambiguous claim language. Comcast argues that the specification requires that a “prefix” include less than all of the characters of the word, but also could include all of the characters of a word, referring to 6:59-62 and 6:36-39 of the specification. Comcast Br. at 27. Both are merely examples of prefixes; neither requires that all “prefixes” in the claims include all of the characters of the word. The Court should not import a limitation into the claims from a single non-limiting example presented in the specification.

The same is true for the “banana” example from the *Compilers* textbook (Ex. 26 to Lisson Decl.), which says that a prefix string *may* include all of the characters of the word (remove zero characters). Extrinsic evidence, such as the textbook, cannot be used to change the meaning of an unambiguous claim term, where the claims themselves define the term.

#### **4. “Descriptive Terms”**

This term requires no construction, because it has a plain and ordinary meaning (Comcast does not argue otherwise). *See* Comcast Br. at 29-30; Rovi Br. at 22.

### **B. Disputed Terms from the ’034 Patent**

#### **1. “Subspace Categories”**

Comcast admits that the examples of “subspace categories” in their construction are copied from the ’034 patent specification. Comcast Br. at 34. This term requires no construction, because it has a plain and ordinary meaning (Comcast does not argue otherwise). Rovi Br. at 23.

#### **2. “Relevance Bias Value”**

Comcast contends that their construction for “relevance bias value” is correct, because it “hews” to a sentence from the specification describing what the “relevance bias value” *does*, but not what it *is*. Comcast Br. at 35. Comcast’s construction does not describe what the “relevance bias value” *is*. Rovi’s construction, on the other hand, describes what the “relevance bias value” *is*: a “value based on the preference of one subspace relative to one or more of the other subspaces.” *See, e.g.*, ’034 patent, 8:30-32 (“[T]he biasing of one subspace over another refers to the relative preferential positioning of sub spaces by boosting or suppression.”).

### 3. “Prefixes”

Comcast’s proposed construction is incorrect for two reasons. First, it is inconsistent with the plain and ordinary meaning of “prefixes.” Rovi Br. at 26; Exhibit E. Second, it is inconsistent with the meaning of “prefixes” provided in the specification: “A prefix substring of a word in a name captures information from the word and can be *a variable length string that contains fewer than all the characters making up the word.*” ’034 patent, 4:49-52.

### 4. “Processor for Performing a First Incremental Find . . .”

The “processor” terms recited in the ’034 patent falls outside of §112(f). “Processor” as recited in the claims is presumptively not a means-plus-function limitation (because “means” is not used), and that presumption is not rebutted because “processor” connotes a class of structures understood by skilled artisans as described by surrounding claim language and the specification. *See* Rovi Br. at 27-28; 28 n.7 (listing cases).

Comcast disagrees, but they are wrong. First, Comcast does not dispute that “processor” is not a “nonce word that can operate as a substitute for ‘means’ in the context of § 112, para. 6.” *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1350 (Fed. Cir. 2015). Second, Comcast misstates the applicable law—*Williamson* does not call for a “two part” test. “The standard is whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure.” *Id.* at 1349 (quoting *Greenberg v. Ethicon Endo-Surgery, Inc.*, 91 F.3d 1580, 1583 (Fed. Cir. 1996)). If “sufficiently definite . . . structure” is ascertained, the inquiry ends and §112(f) does not apply.<sup>8</sup> Third, Comcast’s argument as to “off-the-shelf” processors may be relevant only if it has first been determined

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<sup>8</sup> Comcast suggests *Williamson* provides for a “two-part” test from the following language: “When a claim term lacks the word ‘means,’ the presumption can be overcome and § 112, para. 6 will apply if the challenger demonstrates that the claim term fails to ‘recite sufficiently definite structure’ *or else* recites ‘function without reciting sufficient structure for performing that function.’” *Williamson*, 792 F.3d at 1349 (quoting *Watts v. XL Sys., Inc.*, 232 F.3d 877, 880 (Fed. Cir. 2000) (emphasis added)). But the “or else” in this context is used to say what will happen if something is not done—i.e., in cases where functional claim language fails to “recite sufficiently definite structure,” courts may consider whether the claims recite “function without reciting sufficient structure for performing that function.” This reading is supported by *Rodime PLC v. Seagate Tech., Inc.*, which is cited by *Watts* in support of the language above. 174 F.3d 1294, 1302 (Fed. Cir. 1999). Whether 112(f) applies starts and ends with whether a sufficiently definite structure is recited in the claims.

§112(f) applies. *See Noah Sys., Inc. v. Intuit Inc.*, 675 F.3d 1302, 1312 (Fed. Cir. 2012). As such, whether the recited functions are those typically found in “off-the-shelf” processors is not relevant to whether the claim language “processor” invokes §112(f) and whether “processor” connotes a class of structures understood by skilled artisans.

## **5. “Term”**

Comcast admits that the examples it provides in its construction for “term” are copied from the specification. Comcast Br. at 30. “Term” requires no construction, because it has a plain and ordinary meaning (Comcast does not argue otherwise). Rovi Br. at 29.

### **C. Disputed Terms from the ’696 Patent**

#### **1. “Content Items”**

Comcast addresses the term “content items” together with “television content items.” Comcast Br. at 26-27. Comcast does not address the parties’ disputes regarding Rovi’s inclusion of “units” and Defendants’ inclusion of “selected by a viewer.”

#### **2. “The Second Overloaded Key Forming a String with the First Overloaded Key”**

Comcast does not assert that express words of claims 1 and 15 are limited to search queries comprised of two words. Instead, it contends that, because of the specification includes some examples of multiple word searches (Title<sup>9</sup>; Abstract; 1:27-31; 3:14-16; 7:6-33; and Figure 6), the claims must be re-written using these limiting examples from the specification to require that all searches be comprised of “at least two words.” Comcast is incorrect.

The invention of the ’696 patent is not limited to multiple word searches. Dependent claims 5, 6, 19, and 20 explicitly state that the user’s search query can comprise one or more words: “receiving entry of a plurality of one or more overloaded keys corresponding to *one* or more words in an ordered/unordered format.” (emphasis added). These dependent claims are evidence that the invention permits user search queries comprising “one or more words.” They also show that independent claims 1 and 15 must also permit user search queries comprising

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<sup>9</sup> The title is never limiting. *Pitney Bowes, Inc., v. Hewlett-Packard Co.*, 182 F.3d 1298, 1312 (Fed. Cir. 1999).

“one or more words.” Comcast’s response to this evidence ignores “one or more words” and focuses instead on “ordered” and “unordered”<sup>10</sup> words, arguing that the only relevance of the dependent claims is their addition of these requirements. Comcast Br. at 33.

Comcast also ignores parts of the patent that explicitly permit single word queries. At 5:55-59, the specification refers to how the system orders search results, based on the “type of query input,” including, “single term prefixes.” Comcast argues that this passage refers to “ordering criteria” applied before the entry of any search query. Comcast Br. at 33. This argument ignores the words “search query” and “type of query input” in that passage. Comcast also contends that the ’696 patent only provides examples of multiple word searches. *Id.* at 32. But, in describing Figure 4 at 5:22-25, the patent describes a search with one word—“NBA.”

### **3. “Television Content Item”**

Comcast does not separately address “television content item” in the ’696 patent. In addition to Rovi’s contentions with respect to “television content item” in the ’218 patent section, the ’696 patent specification describes how “selecting and presenting” a “television content item” includes displaying the titles of the television content items that match a search entry, which can then be selected to view the item. ’696 patent, 7:6-33; Figures 8A, 8B, and 8C.

## **III. ’864 PATENT<sup>11</sup>**

### **A. “electronic program guide” and “tuner”**

Comcast argues that its proposed constructions with regard to “electronic program guide” and “tuner” “largely track those for similar terms in patents discussed above.” Comcast Br. at 38. Arguments related to different patents (with different inventors, specifications, and file histories) and different cases have little relevance to the construction of the ’864 patent’s claims. None of the intrinsic evidence cited by Comcast describes the claimed “electronic program guide” of the

<sup>10</sup> “Ordered” words are words that must be in certain order. An example of ordered words is a movie title. (’218 patent, at 1:56-59.) “Unordered words” are words that can appear in any order. An example of unordered words is a name, e.g., Harrison Ford or Ford Harrison. (’696 patent, at 6:10-11.) A single word can be ordered, e.g., “Sleepless” in the title “Sleepless in Seattle” or unordered, e.g., “Harrison.”

<sup>11</sup> Comcast did not brief the “microprocessor” claim terms; the Court should reject Comcast’s contention that the “microprocessor” claim terms are § 112, ¶ 6 terms and should adopt their plain meaning. *See* Rovi Br. at 37-38.

'864 patent as an “application.” The preambles of the relevant claims refer to a “method *for displaying* an electronic program guide.” '864 Patent at 22:15 (Claim 1), 22:50 (Claim 6), and 23:17 (Claim 10). Applying Comcast’s proposed construction—displaying an “application”—makes no sense. The specification consistently refers to the claimed “electronic program guide” as something displayed on the screen. *See, e.g., id.* at 5:9-10 (“The formats of the electronic program guide are shown in FIGS. 2 to 5”). Likewise, nothing in the intrinsic evidence of the '864 patent limits the claimed “tuner” to an electronic circuit. The Court should reject Comcast’s improper attempt to narrow the scope of the claimed “electronic program guide” and “tuner.”

### **B. “displaying...”**

Comcast’s proposed construction of the “displaying...” terms is based on an alleged description of “the invention” in the “Summary of the Invention” section of the '864 Patent. The statement relied upon, however, is not a description of “the invention” as found in the cases cited by Comcast, but rather is an exemplary preferred embodiment:

According to the invention, the moving images of a television program are displayed in a PIP window on the screen of a television monitor and textual information related to the television program is displayed in the background on the screen. *Preferably*, the audio portion of the television program displayed in the PIP window is also reproduced by the sound system of the television monitor. The textual information is arranged on the screen so none of it is covered by the moving images.

'864 Patent at 2:7-14 (emphasis added); *see also id.* at 2:15-62 (including, in the “Summary of the Invention” section, multiple references to different embodiments). Comcast’s argument (*see* Comcast Br. at 35-36) incorrectly suggests that the patent described textual information arranged on the screen “so none of it is covered by the moving images” as “the invention;” it does not.

Comcast’s burden of proving definition or disavowal by the patentee is high. *See Thorner v. Sony Computer Entertainment Am. LLC*, 669 9F.3d 1362, 1366 (Fed. Cir. 2012). The statements that Comcast rely upon from the Abstract and description of preferred embodiments do not rise to the level of definition or disavowal. *See Innova/Pure Water, Inc. v. Safari Water Filtration Sys.*, 381 F.3d 1111, 1121 (noting that the Abstract of a patent “speaks generally to the invention” and “sets forth general information about the document’s content”); '864 Patent at

6:25-26 (describing Figure 5 format). Contrast, for example, the descriptions of preferred embodiments relied upon by Comcast and definitional statements such as the following from the specification: “The screen formats and the links between the individual guides are designed with two objectives in mind—first, always to display the program the viewer was watching before entering the electronic guide and second, never to leave the electronic guide while navigating through it, until the viewer returns to the TV mode.” ’864 Patent at 7:23-28. Nothing in the intrinsic record supports a finding that the patentee demonstrated any intent to deviate from the plain and ordinary meaning of the “displaying...” claim terms through expressions of manifest exclusion, restriction, or clear disavowal. *Thorner*, 669 F.3d at 1366.

**C. “plurality of television program listings”**

There is no basis for requiring the claimed program listings to include “schedule information.” That program listings come from a “program schedule data base” and that “program schedule memory” is accessed to compose program listings does not mean that program listings necessarily include schedule information. The specification describes the highlighted program “Married with Children” (48) as “one of the program listings.” ’864 Patent at 5:19-21. At most, the program listings include the title (and perhaps channel) of the program.

**D. “detailed program description”**

The claim term “detailed program description” is not indefinite. *See generally* Balakrishnan R. Decl. at ¶¶ 11-14. The scope of the term “detailed program description” is addressed in the ’864 patent. *See, e.g., id.*; Figures 2-5, 16-18, 21, and 33-35 (showing various program description areas in different screen formats); ’864 patent at 5:17-19 (describing the “program description area 44”); 6:59-7:5 (describing levels of detail to be included in area 44); Figures 7-14 and 36-38 (illustrating a program description area with “1ST LEVEL DETAIL”). The ’864 patent teaches that the text describing the program in “program description area 44” is both brief and detailed. Balakrishnan R. Decl. at ¶ 14.

Comcast cannot prevail on its indefiniteness argument because the scope of the claim term “detailed program description” is readily ascertainable. *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S.Ct. 2120, 2124 (2014). Comcast admitted as much when it filed its Petition for *Inter Partes Reexamination* of the ’864 Patent and identified in multiple different references “a detailed program description displayed in a second area of the screen.” See IPR Petition (Ex. C) at 18, 63.<sup>12</sup> During the original prosecution of the application of the ’864 patent application, the examiner did the same. See Sept. 25, 2007 Office Action at 3, 6 (Ex. D); Sept. 17, 2009 Office Action at 2-3 (Ex. E).

The term “detailed program description” is used in its plain and ordinary sense as a “description of a program including information in addition to the program title.” Repeating the title of the program does not constitute “detailed program description” as repeating the title provides the user no additional information about the program. Balakrishnan R. Decl. at ¶ 14.

**E. “substantially all of a currently broadcast television program”**

Comcast relies upon a statement made during prosecution of an application related to the ’864 patent to support its proposed limitation. However, the claim language of the ’864 patent is different from the claim language in the application relied upon by Comcast. Compare Lisson Decl. Ex. 34 at 2 (“means for displaying substantially all of an image output by the video signal tuner in a video area of the video display”) with ’864 Patent at 22:55-57 (“simultaneously displaying in a second area of the screen substantially all of a currently broadcast television program”). Importantly, the statement made during the prosecution of the related application is different from the construction proposed by Defendants and does not justify departing from the claim language’s plain and ordinary meaning.

**IV. ’281 PATENT**

Comcast’s proposed claim constructions improperly seek to read limitations from the preferred embodiment into the claim. See *Phillips v. AWH Corp.*, 415 F.3d 1303, 1323 (Fed. Cir.

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<sup>12</sup> Rovi inadvertently failed to attach this exhibit to its opening brief. Accordingly, cites to the IPR Petition at p. 37 n.8 of Rovi’s opening brief are to the exhibit attached here.

2005. Comcast attempts to do so by arguing that the patentee acted as a lexicographer, giving special definitions to each of the relevant terms. Comcast Br. at 40-41. The patentee's definitions, however, must be read as part of the specification of which they are a part. *Phillips*, 415 F.3d at 1313-14. And, in the '281 patent, the patentee's definitions are clearly intended to provide greater clarity to the description of the preferred embodiment. All of the statements relied upon by Defendants follow this clear direction by the patentee:

The following detailed description is directed toward a device state representation and device state eventing in a distributed device control model. *In one described implementation*, the device state and eventing is used in a device architecture 100 (FIG. 1), connectivity model, and device control protocol proposed by Microsoft Corporation, called Universal Plug and Play ("UPnP").

'281 Patent at 4:5-11. None of the definitions is intended to limit the scope of the claims.<sup>13</sup> This statement can be contrasted with the cases cited by Defendants. *See SkinMedica, Inc. v. Histogen Inc.*, 727 F.3d 1187, 1196 (Fed. Cir. 2013) (finding repeated distinguishing of element of invention from prior art warranted departure from plain and ordinary meaning); *Astrazeneca AB v. Mut. Pharm. Co.*, 384 F.3d 1333, 1339 (finding patentee's description of "the invention" as including a particular element warranted departure from plain and ordinary meaning).

**A. "controlled computing device"**

Besides Comcast's attempt to read in UPnP through its capitalization of "User Control Point," there is little difference between the parties' proposed constructions. Any construction of "controlled computing device" should reflect that it is "controlled." Comcast's proposed construction does not. Rovi does not object to Comcast's proposed inclusion of "computing."

**B. "user controller device" / "control point computing devices"**

Rovi's proposed construction of the "user controller device" and "control point computing devices" claim terms accurately captures the plain and ordinary meaning of the

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<sup>13</sup> At no point in the prosecution or reexamination of the '281 patent did the examiner or patentee limit the scope of the claims by any of the alleged definitions now relied upon by Defendants. *See, e.g.*, November 8, 2002 Office Action (Ex. F); April 25, 2003 Amendment (Ex. G); May 14, 2003 Office Action (Ex. H); October 22, 2003 (Ex. I); March 7, 2011 Request for Reexamination (Ex. J).



phrases as used in the claims of the '281 Patent. Rovi does not dispute that the “user controller device” or “control point computing devices” (as claimed) include a “user control point module,” but there is no need to insert that limitation into the construction of “user controller device” or “control point computing devices.” And, any construction of “user controller device” or “control point computing devices” should reflect that each “controls.”

**C. “user control point module”**

The parties’ dispute with regard to the claim term is whether the preferred UPnP embodiment should be read into the claims. Comcast faults Rovi for not relying on any intrinsic evidence, but the parties’ constructions are the same with the exception of Comcast’s addition of “UPnP.” The statement relied upon by Comcast, however, is intended only to describe the preferred embodiment, not limit claim scope. Immediately before the statement relied upon by Comcast ('281 Patent at 6:26-27), the patentee explains: “The *detailed description* that follows uses the terminology defined below.” '281 Patent at 6:20-21. Throughout the detailed description of the preferred embodiment the patentee capitalizes these words and otherwise indicates use of the defined language for the purpose of describing the preferred embodiment. *See, e.g., id.* at 6:26-27 (“User Control Point”); 19:60-61 (“all (UPnP) Controlled Devices”). When used in the claims, the same words are not capitalized or otherwise limited to UPnP. The patentee did not define “the invention” as UPnP; the patentee described an embodiment in the UPnP context.

**D. “state table”**

The '281 patent does not use “state table” interchangeably with “Service State Table” or “SST.” Comcast’s sole example of allegedly interchangeable use is the patentee’s accurate description of the “Service State Table” (as shown in Figure 5) as a state table. '864 Patent at 2:62-63. Throughout, the patent refers to a specific form of a state table—the “Service State Table”—to describe a preferred embodiment. *See, e.g.,* Figures 3, 5, 6, 7, 10, 11, and 12 (depicting “Service State Table”). There is no basis to import the definition of “Service State Table” into the claims.

**E. “event”**

Comcast’s proposed construction is taken directly from the patentee’s description of the preferred embodiment. ’864 Patent at 9:22-23. But, the term “event” is used in the ’281 patent claims in its plain and ordinary sense. Comcast did not even attempt to address the incongruity of its construction with the language of the claim. Instead, Comcast argues that the specification’s description of an “event” as a “message generated when a change in a resource’s state occurs” (’281 Patent at 30:1-2) is not a definition. But, there is no reason to label Comcast’s cited part of the specification a “definition” and the part of the specification identified by Rovi as “not a definition.” Comcast suggests that its “definition” is more general, but the opposite is true. *Compare* ’281 Patent at 9:22-23 (defining “event” in context of UPnP) *with id.* at 30:1-2 (defining “event” more generally). In any event, both statements describe a preferred embodiment and neither indicates any departure from the plain and ordinary meaning.

**F. “eventing model”**

The operation of the “eventing model” is plainly described in the claims, and, therefore, needs no construction. The parties’ primary dispute is whether the language “at any time” should be read into any construction of “eventing model.” There is no basis to do so. The portion of the specification relied upon by Comcast makes it clear that the “Eventing” described is in the context of UPnP. ’864 Patent at 12:33-36 (“Eventing, *in the context of UPnP*, is the ability for a device to initiate a connection at any time[.]”) Comcast’s proposal also improperly adds the concept of a “connection” and receipt of “events”—items not otherwise required by the claims.

**G. “device control protocol”**

The claim term “device control protocol” is used in its plain and ordinary manner in claims 20, 48, and 75. Comcast again attempts to read the patentees’ description of the preferred UPnP embodiment into the claims. *See* ’281 Patent at 7:30-32 (“Device Control Protocol” (DCP)). A complete set of UPnP protocols and schemas used to interact with a UPnP Controlled Device”). Comcast argues that “device control protocol” has no plain and ordinary meaning, but Comcast’s proposed construction reflects that meaning absent its improper injection of UPnP.

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Respectfully submitted,

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**CERTIFICATE OF SERVICE**

I hereby certify that a true and correct copy of the above and foregoing document has been served on all counsel of record via the Court's ECF system on June 9, 2017.

/s/ Joshua W. Budwin